400 W. Artesia Blvd. Fax: (310) 747-3912
Compton, CA 90220 Ph: (877) 695-7812
www.trailmastersuspension.com

JEEP WRANGLER 4 DOOR (JK) 4" SPRING KIT
'07- '13 KIT# TM3340-40013 w/ Nitro Shocks

WARNING

Installation of a Trail Master suspension lift kit will change the vehicle's center of gravity and handling characteristics both on- and off-road. You must drive the vehicle safely! Extreme care must be taken to prevent vehicle rollover or loss of control, which could result in serious injury or death. Avoid sudden sharp turns or abrupt maneuvers and always make sure all vehicle occupants have their seat belts fastened.

WARNING

Before you install this kit, read and understand all instructions, warnings, cautions, and notes in this instruction sheet and in the vehicle owner's manual.

CAUTION

Proper installation of this kit requires knowledge of the factory recommended procedures for removal and installation of original equipment components. We recommend that the factory shop manual and any special tools needed to service your vehicle be on hand during the installation. Installation of this kit without proper knowledge of the factory recommended procedures may affect the performance of these components and the safety of the vehicle. We strongly recommend that a certified mechanic familiar with the installation of similar components install this kit.

WARNING

This kit should only be installed on a vehicle that is in good working condition. Before you install the kit, thoroughly inspect the vehicle for corrosion or deformation of the sheet metal. If the vehicle is suspected to have been in a collision or misused, do not install this kit. Off-road use of your vehicle with this kit installed may increase the stress applied to the factory components. Failure to observe this warning may result in serious personal injury and/or severe damage to your vehicle.

WARNING

Many states and municipalities have laws restricting bumper heights and vehicle lifts. Consult state and local laws to determine if the changes you intend to make to the vehicle comply with the law.

WARNING

The installation of larger tires may reduce the effectiveness of the braking system.

WARNING

Always wear eye protection when operating power tools.

WARNING

Before you install this kit, block the vehicle tires to prevent the vehicle from rolling.

WARNING

DO NOT combine suspension, body, or other lift devices. Use of vehicle with combined lifts may result in unsafe and/or unexpected handling characteristics.

NOTE

Lift height may vary depending on vehicle configuration, engine size, additional accessories, the factory suspension package, and vehicle's condition.

NOTE

Trail Master recommends using thread locking compound on the threads of all kit nuts and bolts unless specified otherwise in these instructions.

INSTALLATION WORKSHEET—SAVE WITH VEHICLE RECORDS

Product Information

Part Number:	Date Purchased:	Purchased From:

Vehicle Information

Make:	Model:	Year:
VIN:	Mileage:	Engine:

Owner Information

Name:		
Address:		
City:	State:	Zip:

Vehicle Measurements

Axle Center to Fender Lip (on level ground, at ride height):	OE	Kit Installed
Right Front		
Right Rear		
Left Front		
Left Rear		

Bump Stop to Contact Point (on level ground, at ride height):	OE	Kit Installed
Right Front		
Right Rear		
Left Front		
Left Rear		

Tire & Wheel Information

Tire Size:	Tire Brand:	
Actual Tire Diameter (measured):	Wheel Size:	
Wheel Style:	Wheel Brand:	Wheel Backspacing:

Other Equipment and/or Accessories

Installer Information

Shop Name:	Installer:	
Address:		
City:	State:	Zip:
Phone Number:	Fax Number:	

Attach: Copy of Purchase Receipt
Copy of Vehicle Wheel Alignment Results

Before Starting Installation

NOTE

Kit parts are prefaced by the word *kit* and appear in **bold** print.

1. Carefully read all warnings and instructions completely before beginning.

2. Verify all parts have been received in this kit by checking the parts list at the end of this document.

3. **Only install this kit on the vehicle for which it is specified.** If anytime during the installation you encounter something different from what is outlined in the instructions, call technical support at **(877) 695-7812.** Park vehicle on a clean, dry, flat, level surface and block tires so vehicle cannot roll in either direction.

4. Park vehicle on a clean, dry, flat, level surface and block tires so vehicle cannot roll in either direction.

5. Measure ride height with the vehicle supporting its own weight on level ground. To settle the suspension, the vehicle should be driven forward at least 10 feet immediately prior to taking these measurements. Ride height is the measurement from the center of the axle straight up (vertical) to the fender lip. Record this measurement for all four wheels.

NOTE

Adhere to recommendations when replacement fasteners, retainers and keepers are called out in the factory service manual. When re-assembling the vehicle it is recommended by the vehicle manufacturer that certain fasteners are replaced in order to maintain proper retention characteristics. This system may not include all replacement hardware as recommended by the factory service manual. Additional replacement hardware should be obtained prior to installation of this system to meet the requirements of the factory service manual.

Wheel & Tire Requirements

The factory wheel and tire combination will fit once this kit is installed.

Torque Specifications:

See factory service manual for torque values when reusing OE fasteners.

See factory service manual for torque values when re-using OE fasteners.

Bolt Size	Grade 5 (ft.-lbs.)	Grade 8 (ft.-lbs.)
1/4”-20	10	10
1/4”-28	10	12.5
5/16”-18	17	22.5
5/16”-24	20	25
3/8”-16	30	40
3/8”-24	35	45
7/16”-14	50	65
7/16”-20	55	70
1/2”-13	75	100
1/2”-20	80	115
9/16”-12	105	135
9/16”-18	115	150
5/8”-11	150	195
5/8”-18	160	210
3/4”-16	175	225

Engine Compartment

1. Disconnect both battery cables. Disconnect negative cable first, then positive cable.

Prepare to Install Front Suspension

WARNING

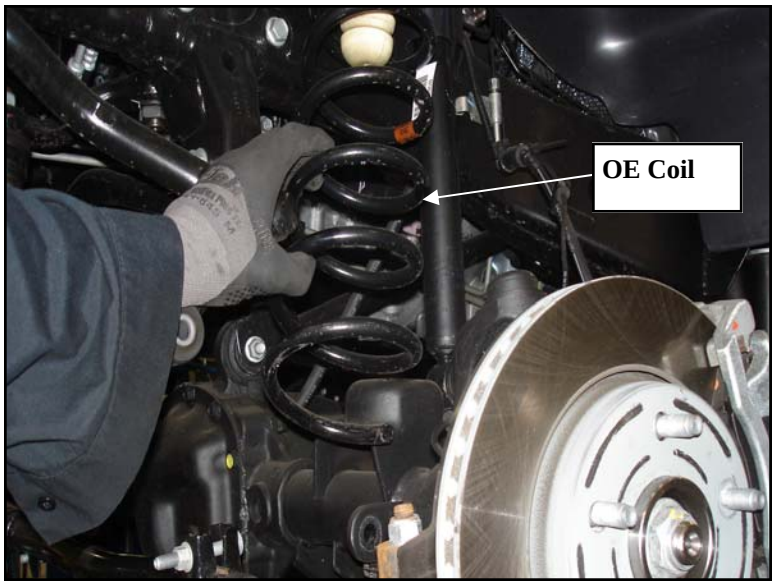
Compressed coil springs can expand violently causing serious personal injury. Before removing the coil springs, lower the axle housing as far as possible to allow the coil springs to expand.

1. Loosen, but do not remove, lug nuts on each front wheel.
2. Jack the rear of the vehicle with the floor jack under the differential and place jack stands under the frame just behind the lower control arm frame mounts. Leave the jack stands high enough to let the floor jack down and still have the front tires suspended in the air. Keep the floor jack under the differential with slight pressure for support. Remove the front wheels.

WARNING

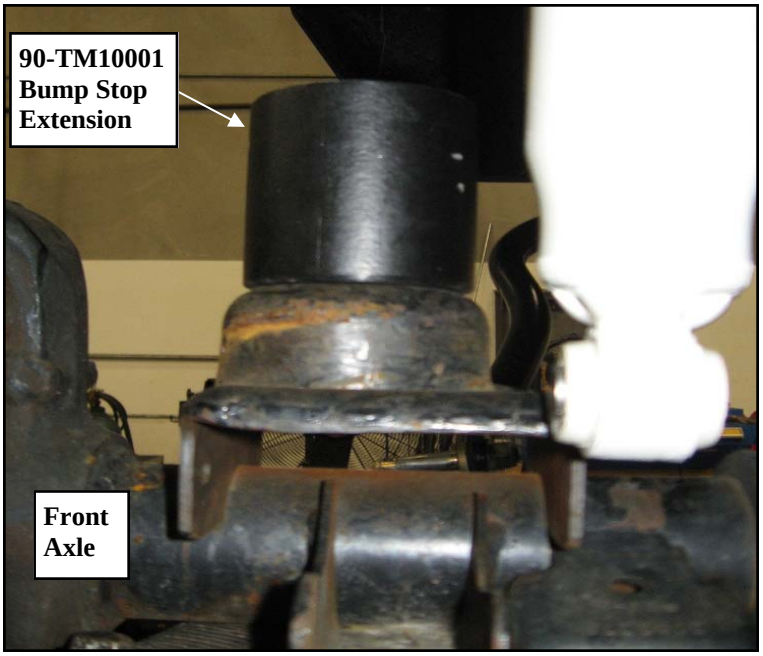
Use extreme caution when lifting vehicle from ground. To prevent serious personal injury, ensure the lifting device is securely placed.

3. Disconnect the track bar from the axle and save the hardware for reuse.
4. Using the appropriate tool, disconnect the steering linkage from the pitman arm and save the hardware for reuse.
5. Using the appropriate tool, remove the **OE** pitman arm from the vehicle. save the **OE** retaining nut for reuse.
6. Unbolt the front brake line brackets from the frame. Save the hardware for reuse.
7. Unbolt the front sway bar end links from the axle. Save the hardware for reuse.
8. Unbolt and remove the front shocks from the vehicle. Save the hardware for reuse.
9. Unbolt the **(1)** driver side skid plate bolt and loosen the **(2)** passenger side skid plate bolts.
10. Lower the jack carefully, remove the **OE** coil springs and the **OE** isolators. Label the springs as to which side they were removed, Left and Right so that they are reinstalled in the side in which they were removed.

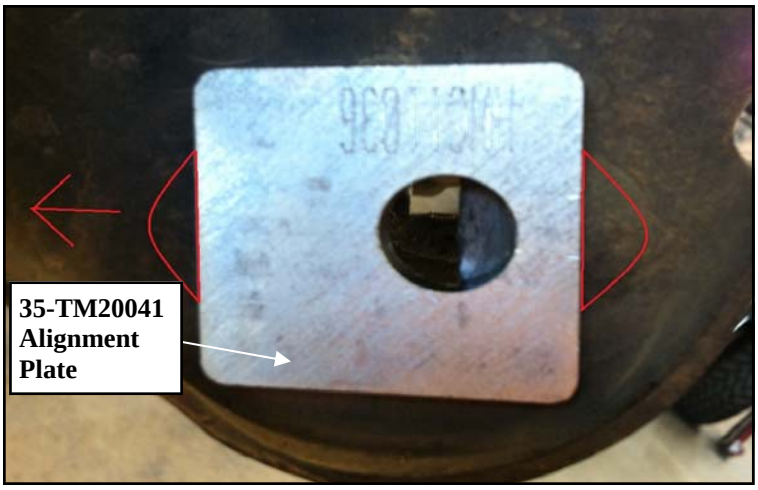


Install Front Suspension

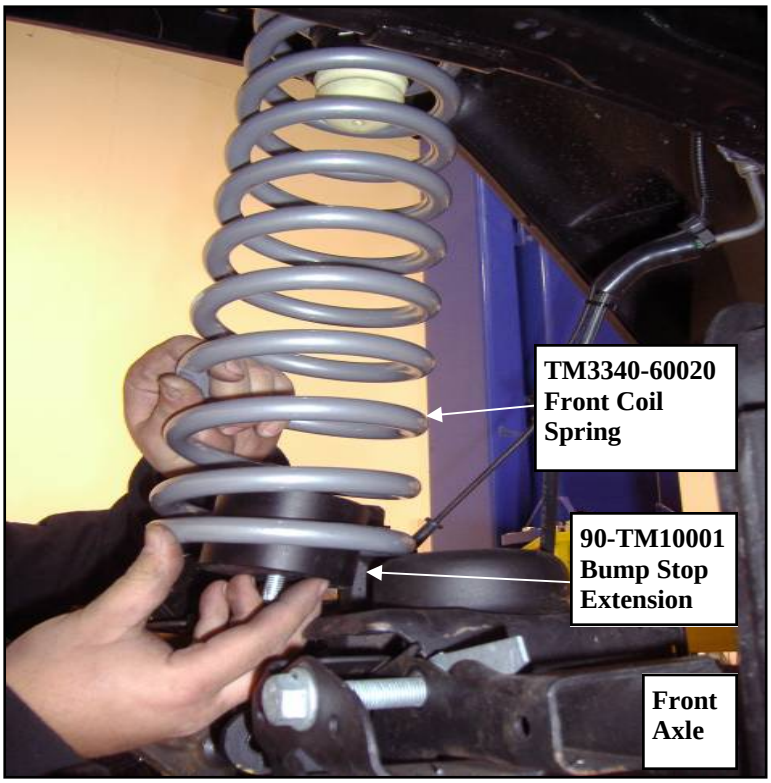
1. Place the front bump stop extension **(90-TM10001)** on the lower spring mount. Center the extension and mark with a center punch.
2. Use the previously applied mark to drill a hole in the lower spring mount using a **5/16”** drill bit. Pre tap the hole using the supplied **3/8” X 2”** self tapping screw.



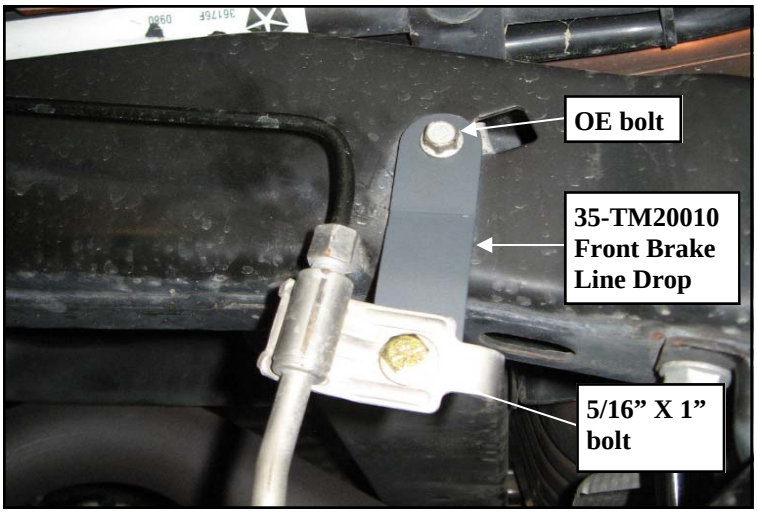
3. Install the front track bar relocation bracket **(82-TM20032)** into the original track bar mounting pocket using the **OE** bolt and supplied spacer **(35-TM30024).**
4. Secure the track bar relocation bracket to the axle mounting pocket using the supplied **5/16" X 1"** bolts and hardware.
5. Use the **(2)** holes in the support leg of the track bar bracket as a guide to center punch and drill the mounting holes in the axle upper control arm mount. Drill the holes using a **5/16"** drill bit.
6. Bolt the support leg of the track bar bracket to the upper control arm mount using the supplied **5/16" X 1"** bolts, washers and nut plate **(35-TM20036).**
7. Torque the **5/16"** hardware to 25 ft./lbs. and the **OE** bolt to 125 ft./lbs.
8. With the front axle supported, unbolt the lower front control arm from the front axle mounts.
9. Using a chisel, remove the alignment plates from the factory mounts.



10. Reinstall the front lower control arms to the axle mounts using the supplied alignment plates. Rotate the plates so that the large lobe is facing toward the front of the vehicle. Torque to 95 ft./lbs.
11. Repeat steps 6 through 8 on the remaining side of the vehicle.
12. Carefully lower the front axle to ease in the new coil spring installation. Using the factory isolators install the coil springs **(TM3340-60020)** into the spring buckets



13. Raise the front axle into place. Make sure the coil spring seats properly on the lower spring perch.
14. Install your new front shocks **(TM73265005)** using the previously removed **OE** hardware.
15. Torque the **OE** shock hardware according to manufacturers specifications.
16. Reinstall the **OE** front sway bar end link into original mounting bracket on the axle using the previously removed **OE** hardware**.** Torque to manufacturers specifications.
17. **2007-2010 models only:** Install the front brake line brackets **(35-TM20010)** to the frame and secure using the provided **5/16" X 1"** bolt s and hardware.



18. **2011-2013 models only:** Install the front brake line brackets **(35-TM20030 drvr** and **35-TM20031 pass)** to the front spring pads and secure using the provided **1/4" X 1"** bolts and hardware.
19. Secure the **OE** brake line brackets to the drop brackets using the previously removed **OE** hardware.
20. Remove the retaining clips that retain the ABS wire to the **OE** brackets. Wrap the **OE** ABS lines with the provided protective sleeves **(90-4337)** and secure with the supplied zip ties **(10999)**.
21. Install the new pitman arm **(TM3340-50020)** to the sector shaft.

NOTE

Whether re-using the existing pitman arm retaining nut or replacing with a new nut, thread locking compound must be used.

22. Reinstall the Pitman arm retaining nut to the sector shaft and torque to 185 ft./lbs.

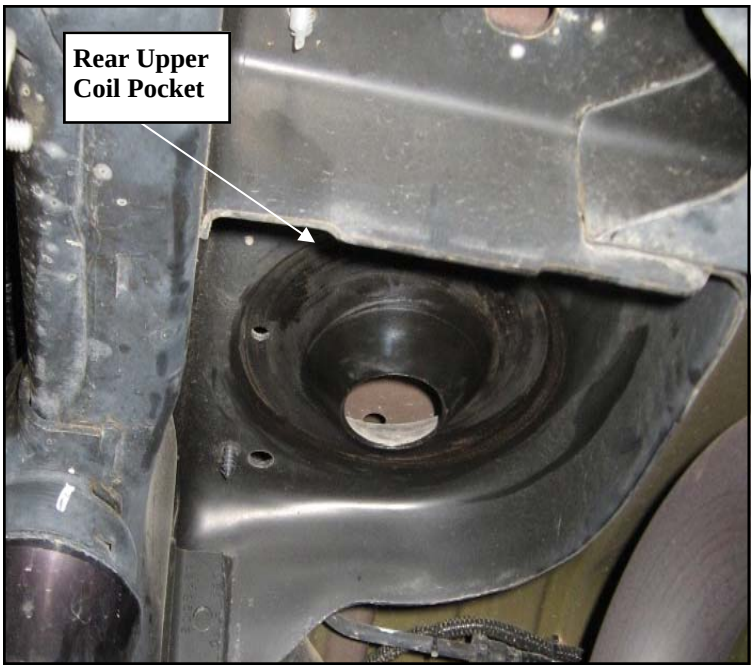
NOTE

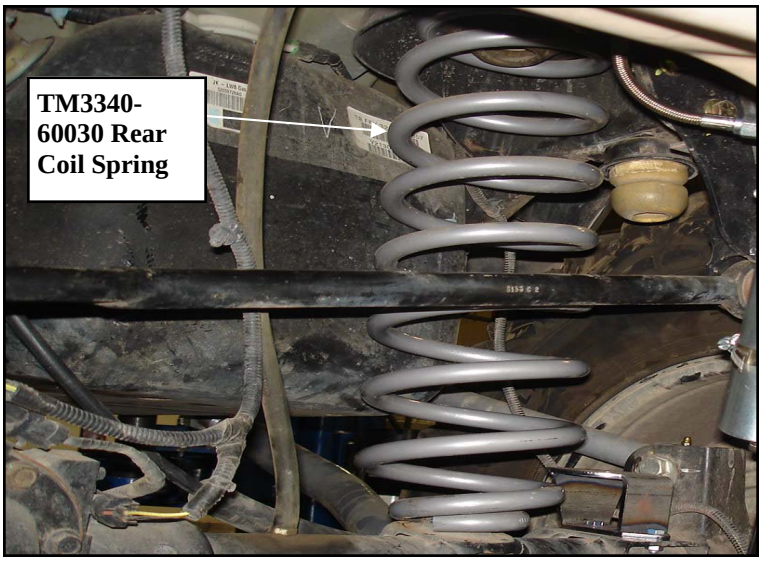
The threads of the sector shaft and the Pitman arm retaining nut ***MUST*** be cleaned using brake cleaner or another suitable method to remove the previously applied oil.

23. Reinstall the steering drag link to the pitman arm using the previously removed castellated nut. Torque the drag link nut to 60 ft./lbs. Insert new cotter pin.
24. Reinstall the front track bar to the front track bar bracket using the supplied **14mm** cam bolt **(90-3718),** notched cam **(90-3245)** and hardware.
25. Reattach the transfer case skid plate using the previously removed hardware. Torque the hardware to 87 ft./lbs.
26. Reinstall the wheels and lower the vehicle to the ground. Torque the lug nuts to **OE** specifications.
27. Torque all bolts to factory specifications. Retorque all bolts after 500 miles.

Prepare to Install Rear Suspension

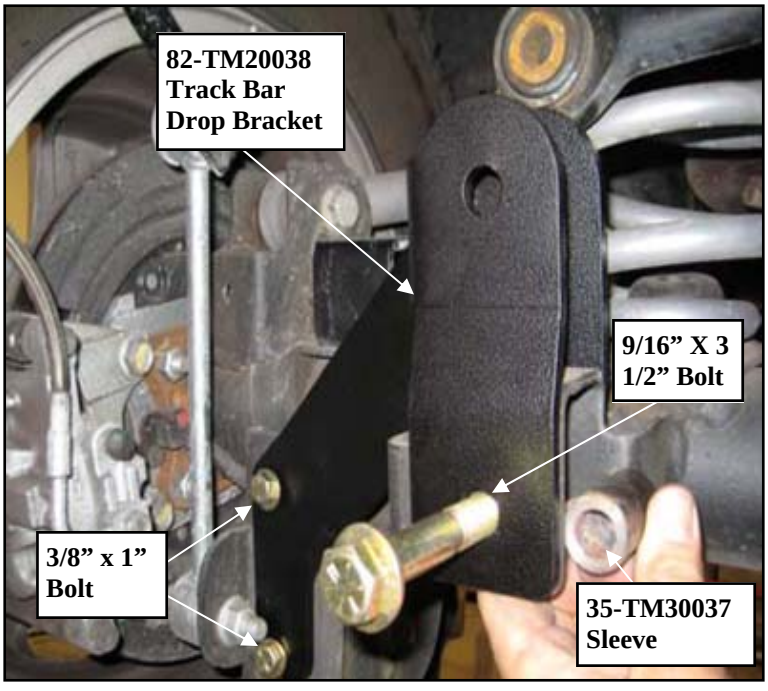
1. Jack the rear of the vehicle with the floor jack under the differential and place jack stands under the frame just in front of the lower control arm frame mounts. Leave the jack stands high enough to let the floor jack down and still have the rear tires suspended in the air. Keep the floor jack under the differential with slight pressure for support.
2. Remove the rear wheels.
3. Unbolt and remove the rear track bar from the vehicle. Save the hardware for reuse.
4. Unbolt and remove the rear shocks from the vehicle. Save the hardware for reuse.
5. Unbolt and remove the rear sway bar end links from the vehicle.
6. Unbolt the brake line bracket from the frame. Save the hardware for reuse.
7. Unclip the ABS line from the axle.
8. Lower the rear differential so that the springs come loose. Remove the **OE** coil springs and the **OE** isolators. Label the springs as to which side they were removed, Left and Right so that they are reinstalled in the side in which they were removed.





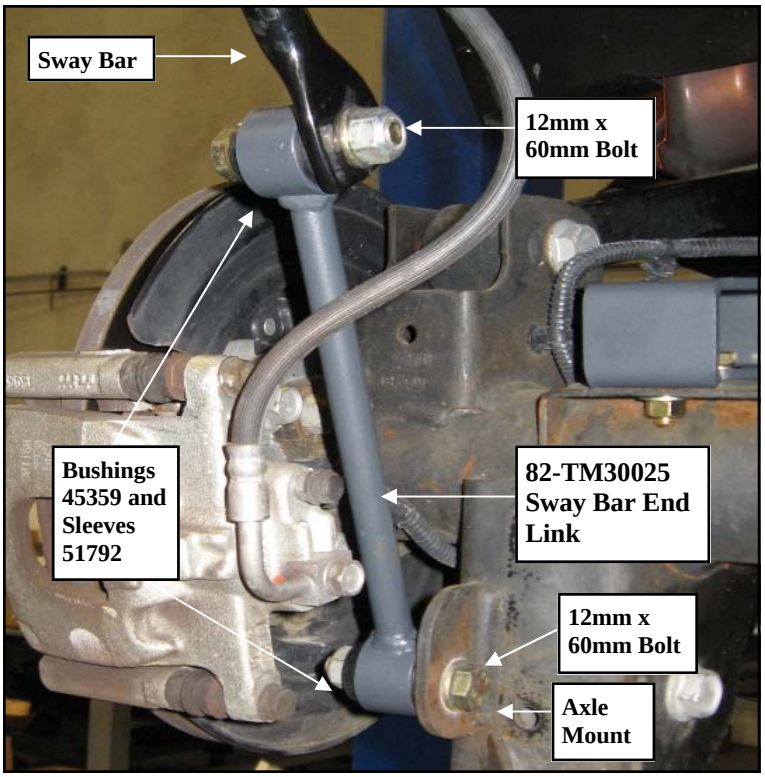
Install Rear Suspension

1. Install the track bar drop bracket **(82-TM20038)** into the track bar mounting position using the previously removed **9/16" X 3 1/2"** bolt, hardware and sleeve **(35-TM30037)**.



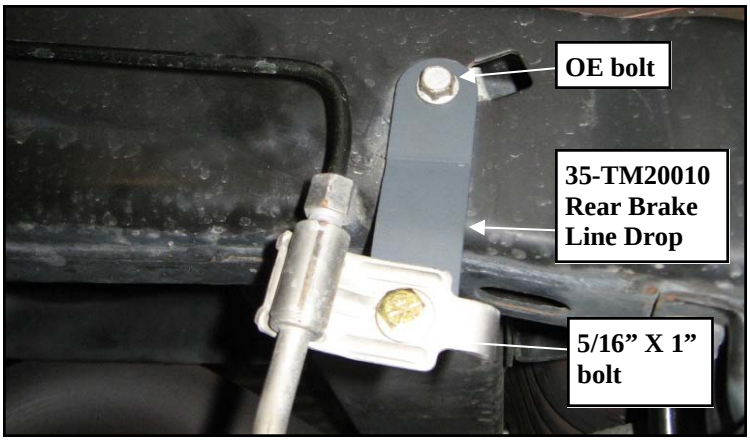
2. Secure the rear track bar drop bracket **(82-TM20038)** to the axle using the **(2)** supplied **3/8" x 1"** bolt and hardware.
3. Torque the **9/16"** track bar drop hardware to 135 ft./lbs and the **3/8"** hardware to 40 ft./lbs.

4. Carefully lower the front axle to ease in the new coil spring installation. Using the factory isolators install the coil springs **(TM3340-60030)** into the spring buckets
5. Raise the rear differential and make sure that the coil springs are in their saddles.
6. Assemble the rear sway bar end links **(82-TM30025)** by install bushings **(45359)** and sleeve **(51792)** in the top and bottom of the sway bar end links**.**



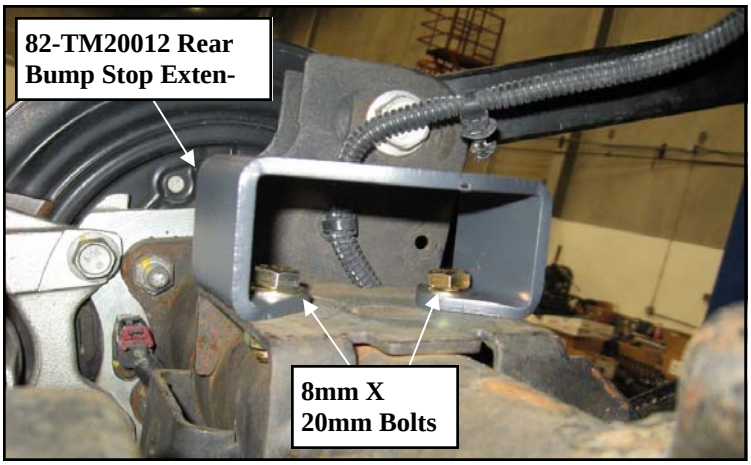
7. Install sway bar end links **(82-TM30025)** into the **OE** frame and sway bar mounting locations using the previously supplied **12mm x 60mm** bolts and hardware.

8. Install the rear brake line drop **(35-TM20010)** to the **OE** hole in the frame using the previously removed **OE** hardware.



9. Reconnect the rear brake line drop **(35-TM20010)** using the supplied **5/16" X 1"** bolt and hardware.

10. Install the rear bump stop extensions **(82-TM20012)** to the rear axle bump stop pad using the supplied **8mm X 20mm** bolts and hardware.



11. Install your new front shocks **(TM73265006)** using the previously removed **OE** hardware.

12. Torque the **OE** shock hardware according to manufacturers specifications.

13. Reinstall the rear track bar to the axle mount using the previously removed **OE** hardware.

14. Install the rear track bar to the track bar drop bracket using the supplied **9/16 x 3 1/2"** bolt and hardware. Torque to 135 ft./lbs.

15. At full droop, cycle the steering from lock to lock while observing the reaction of these components. Reposition them if needed.

16. Reinstall the rear wheels and lower the vehicle to the ground. Torque the lug nuts to factory specifications.

17. Recheck the wheel lug torque on all four wheels at this time.

18. Recheck all hardware for proper installation and torque at this time.

19. On completion of the installation, have the headlights re-aligned.

20. Test drive and note location of steering wheel.

21. Adjust drag link to center steering wheel.

22. Align vehicle as soon as practical to minimum factory caster and maximum factory toe-in specifications.

23. After 100 miles recheck for proper torque on all newly installed hardware.

24. Recheck all hardware for tightness after off road use.

After Completing Installation

Engine Compartment

1. Connect both battery cables. Connect positive cable first, then negative cable.

Miscellaneous

1. Adjust headlights.

2. Check all fasteners to ensure they are tight.

3. Ensure all wires, hoses, cables, etc. are properly

connected and there is ample slack.

4. Align vehicle to OE specifications. Retain alignment

results.

Dynamic Vehicle Check

1. Check steering and suspension in all positions to ensure that there is no bind and adequate clearance between all moving, fixed, and heated members. Check operation of clutch, brake system, and parking brake. Check operation of transmission and transfer case. Ensure there is full engagement in all gears and 4WD ranges. Check battery connections and electrical component operations. Test-drive vehicle.

WARNING

Re-torque all fasteners after 500 miles and after off road use. All suspension lift components should be visually inspected and fasteners re-torqued during routine vehicle servicing.

CAUTION

Trail Master does not recommend any particular wheel and tire combinations for use with its suspension lifts and cannot assume responsibility for the customer’s choice of wheels and tires. Refer to your owner's manual for recommended tire sizes and warnings related to the use of oversized tires. Larger wheel and tire combinations increase stress and wear on steering and suspension components, which leads to increased maintenance and higher risk for component failure. Larger wheel and tire combinations also alter speedometer calibration, braking effectiveness, center of gravity, and handling characteristics. Consult an experienced local off road shop to find what wheel and tire combinations work best with your vehicle.

NOTE

All warranty information, instruction sheets, and other documents regarding the installation of this product must be retained by the vehicle owner. Information contained in the instructions and on the warranty card will be required for any warranty claims. The vehicle owner needs to understand the modifications made to the vehicle and how they affect vehicle handling and performance. Failure to provide the customer with this information can result in damage to the vehicle and severe personal injury.

Kit Parts List:

TM3340-40013 Kit:

2 **4” Coil Spring** (TM3340-60020, front)
2 **4” Coil Spring** (TM3340-60030, rear)
2 **Absorber** (shock, front, TM73265005)
2 **Absorber** (shock, rear, TM73265006)

Box TM3340-40013-1

4 **Brake Line Drop** (35-TM20010)
1 **Brake Line Drop** (35-TM20030)
1 **Brake Line Drop** (35-TM20031)
1 **90-TM60005 Hardware bag, (Brake Line Drop)**
- 4 **Bolt** (5/16” x 1” Gr. 8)
- 4 **Nylock Nut,** (5/16”)
- 8 **Hardened Washer,** (5/16”)

1 **90-TM60024 Hardware bag, (Brake Line Drop)**
- 2 **Bolt** (1/4”-20 x 1” Gr. 8)
- 2 **Stover Nut,** (1/4”-20)
- 4 **Hardened Washer,** (1/4”)

2 **Brake Line Sleeving** (90-4337)
2 **11” Zip Ties** (10999)
2 **Sway Bar End Link** (Rear, 82-TM30025)
4 **Bushing** (Rear, 45359)
4 **Sleeve** (Rear, 51792)
1 **90-TM60029 Hardware bag, (Rear Sway Bar)**
- 4 **Bolt** (M12-1.75 x 60mm 10.9)
- 4 **Flange Nut,** (M12)
- 8 **Flat Washer,** (M12)

1 **Track Bracket** (Front, 82-TM20032)
1 **Sleeve** (35-TM30024, Front)
1 **90-TM60025 Hardware bag, (Front Track Bar)**
- 1 **Notched Cam** (front, 90-3245)
- 1 **Cam Bolt** (front, 90-3718)
- 1 **Nut,** (M14-1.5)
- 1 **Flat Washer,** (M14)

1 **90-TM60026 Hardware bag, (Front Track Bar)**
- 2 **Bolt** (5/16” x 1”)
- 2 **Flat Washer,** (5/16”)

1 **90-TM60027 Hardware bag, (Front Track Bar)**
- 3 **Bolt** (5/16” x 1”)
- 3 **Nylock Nut,** (5/16”)
- 6 **Flat Washer,** (5/16”)

1 **Nut Plate** (35-TM20036, Front Track Bar)
1 **Track Bracket** (Rear, 82-TM20038)
1 **Sleeve** (35-TM10037, Rear)
1 **90-TM60028 Hardware bag, (Rear Track Bar)**
- 2 **Bolt** (3/8”-16 x 1” Gr. 8)
- 2 **Flange Nut,** (3/8”)
- 4 **Washer,** (3/8”)
- 1 **Bolt** (9/16” x 3 Gr. 8)
- 1 **Bolt** (9/16” x 3 1/2” Gr. 8)
- 2 **Nylock Nut,** (9/16”)
- 4 Flat **Washer,** (9/16”)

4 **Alignment Plate** (35-TM20041)
2 **Bump Stop** (front, 90-TM10001)
1 **90-TM60007 Hardware bag, (Front Bump Stop)**
- 2 **Self Tapping Bolt** (3/8” x 2”)

2 **Bump Stop** (rear, 82-TM20012)
1 **90-TM60008 Hardware bag, (Rear Bump Stop)**
- 4 **Bolt** (M8-1.25 x 20mm 10.9)
- 4 **Nylock Nut,** (M8)
- 4 **Washer,** (M8)

1 **Pitman Arm** (TM3340-50020)

Revision Page:

Notice to Owner Operator, Dealer and Installer:
Vehicles that have been enhanced for off-road performance often have unique handling characteristics due to the higher center of gravity and larger tires. This vehicle may handle, react and stop differently than many passenger cars or unmodified vehicles, both on and off–road. You must drive your vehicle safely! Extreme care should always be taken to prevent vehicle rollover or loss of control, which can result in serious injury or even death. Always avoid sudden sharp turns or abrupt maneuvers and allow more time and distance for braking! **Trail Master Suspension** reminds you to fasten your seat belts at all times and reduce speed! We will gladly answer any questions concerning the design, function, maintenance and correct use of our products.

Please make sure your Dealer/Installer explains and delivers all warning notices, warranty forms and instruction sheets included with Trail Master Suspension product.
Application listings in this catalog have been carefully fit checked for each model and year denoted. However, **Trail Master Suspension** reserves the right to update as necessary, without notice, and will not be held responsible for misprints, changes or variations made by vehicle manufacturers. Please call when in question regarding new model year, vehicles not listed by specific body or chassis styles or vehicles not originally distributed in the USA.

Please note that certain mechanical aspects of any suspension lift product may accelerate ordinary wear of original equipment components. Further, installation of certain **Trail Master Suspension** products may void the vehicle's factory warranty as it pertains to certain covered parts; it is the consumer's responsibility to check with their local dealer for warranty coverage before installation of the lift.

Warranty and Return policy:
Trail Master Suspension warranties its full line of products to be free from defects in workmanship and materials. **Trail Master Suspension's** obligation under this warranty is limited to repair or replacement, at **Trail Master Suspension's** option, of the defective product. Any and all costs of removal, installation, freight or incidental or consequential damages are expressly excluded from this warranty. **Trail Master Suspension** is not responsible for damages and / or warranty of other vehicle parts related or non-related to the installation of **Trail Master Suspension** product. A consumer who makes the decision to modify his vehicle with aftermarket components of any kind will assume all risk and responsibility for potential damages incurred as a result of their chosen modifications. Warranty coverage does not include consumer opinions regarding ride comfort, fitment and design. Warranty claims can be made directly with **Trail Master Suspension** or at any factory authorized **Trail Master Suspension** dealer.

IMPORTANT! To validate the warranty on this purchase please be sure to mail in the warranty card.
Claims not covered under warranty-
• Parts subject to normal wear; this includes bushings, bump stops, ball joints, tie rod ends and heim joints
• Discontinued products at **Trail Master Suspension's** discretion
• Bent or dented product
• Finish after 90 days
• Leaf or coil springs used without proper bump stops
• Products with evident damage caused by abrasion or contact with other items
• Damage caused as a result of not following recommendations or requirements called out in the installation manuals
• Products used in applications other than listed in **Trail Master Suspension's** catalog
• Components or accessories used in conjunction with other manufacturer's systems
• Warranty claims without "Proof of Purchase"
• **Trail Master Suspension** accepts no responsibility for any altered product, improper installation, lack of or improper maintenance, or improper use of our products.

E-Mail: info@trailmastersuspension.com
Website: www.trailmastersuspension.com
Ph: (877) 695-7812